

# Jefferson Memorial Problem Solving Hand Out

If you ever get a chance to visit Washington D.C., take the time to visit the Jefferson Memorial. Millions of people visit the memorial each year to remember the strong leader.

Several years ago, the National Parks Service executives wrestled with a problem. The stone exterior of the memorial was deteriorating and showing significant signs of wear. They considered replacing the stone or painting over it on a frequent basis, but this solution was too expensive. So instead, they called the maintenance crew and asked, “Why?”

“Why?” is a powerful question in problem solving. The “Five Why’s” is a simple root cause analysis technique that involves asking “Why?” until you get to the deepest root of a problem.

“**Why** was the stone deteriorating?” the executives asked.

The maintenance crew responded, “Because of the high-power sprayers we use to wash the memorial every two weeks.” Now, the executives could have solved the problem at this level by canceling the washings, but they realized this would bring complaints from the tourists, who enjoyed the beauty of a clean and shining memorial.

So, they asked, “**Why** are we doing high-powered washings every two weeks?”

The maintenance crew said, “Because of the bird droppings.”

It was pretty obvious that if you got rid of the birds, the bird droppings would stop, so the executives sent away the maintenance crew with instructions to put nets up in strategic places. Unfortunately, the nets weren’t very effective, and the tourists complained that they were unsightly.

So, the maintenance crew was called again, and the executives asked, “**Why** are there so many birds?”

They pointed out what seemed quite obvious to them: “The reason the birds come is to feed on the spiders,” they said.

“Spiders? **Why** are there so many spiders?” asked the executives.

“Have you ever been to the memorial at night?,” they asked. “There are billions of insects. The spiders come for the buffet.”

Armed with this information, the executives ordered regular treatments of insecticides. But this solution also proved ineffective and created more complaints from the tourists. So, the executives called for the maintenance crew again.

**Executives:** “**Why** are there so many insects?”

**Maintenance crew:** “The insects are attracted by the high-powered spotlights we shine on the memorial.”

**Executives:** “**Why** didn’t you just tell us that before we ordered the insecticides?”

**Maintenance crew:** “Sorry, boss. You didn’t ask.”

The executives could answer their last few questions on their own.

“**Why** do we shine the lights?”

“So the tourists will come to see the memorial.”

“**Why** do we want the tourists to come?”

“Because they bring their money and spend it in our city.”

This was a problem they weren’t willing to solve. They decided that they needed to call in their subject-matter experts one last time.

**Executives:** “Is there anything we can do about the lights so that there won’t be so many bugs.”

**Maintenance crew:** “Sure, turn the lights on later in the evenings and off earlier in the mornings.”

This, as it turned out, was a brilliant idea! The lights were typically turned on two hours before sunset and turned off two hours after sunrise.

By waiting until 30 minutes after sunset to turn them on and turning them off 30 minutes before sunrise, they were able to both save significant money on electricity and also reduce the amount of bugs by 90%.

The insects, assuming that the Jefferson Memorial was closed for business, decided to relocate.

Less bugs meant less spiders.

Less spiders meant less birds.

Less birds meant less droppings.

Less droppings meant less washings.

Less washings meant less deterioration of the stone on the outside of the memorial.

The executives were happy. The maintenance crew was happy, and most importantly, the tourists were happy.